

Please add the following new Claim 22 - 25

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22. (New) The semiconductor device according to claim 1, wherein the radiating plate has end portions formed integrally at both ends of a center portion of the radiating plate, the lower end of the resin wall is bonded to said center portion, and said end portions are exposed through the resin wall.

23. (New) The semiconductor device according to claim 2, wherein the radiating plate has end portions formed integrally at both ends of a center portion of the radiating plate, the lower end of the resin wall is bonded to said center portion, and said end portions are exposed through the resin wall.

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24. (New) The semiconductor device according to claim 1, wherein said conductive member is broader on the inside of said resin wall.

25. (New) The semiconductor device according to claim 2, wherein said semiconductor member is broader on the inside than said resin wall.

REMARKS

The following remarks are in response to the outstanding Office Action of October 24, 2002. Reconsideration of the application, as amended, is respectfully requested.

Applicant expresses appreciation for finding that claim 17 and 18 contain allowable subject matter.

The Examiner has rejected claims 1-16 under 35 USC 103(a) as being unpatentable over Switky et al., U.S. Patent No. 5,270,262, in view of Thomas, U.S. Patent No. 5,828,126. Applicant has amended claims 1 and 2 to further distinguish over the prior art. Specifically, claims 1 and 2 have been amended to clarify that the inner lead portion of the conductive member is mounted on a base seat part

formed as a part of the resin wall. In comparison Switky teaches an inner lead portion that protrudes in space (Figs. 3A and 3B). Accordingly, the structure of the present invention improves the support strength of the inner lead portion 30a.

Applicant has written new claims 22 and 23 to further distinguish over the prior art. In Switky, all four sides of the bottom plate are located inside the resin wall. However, according to Claim 22 only that side of the radiating plate having the lead is inside the resin wall. On the other hand, the side of the radiating plate having the screw holes 4 (Fig. 3) extends outward through the resin wall. This structure increases the heat discharging effect of the radiating plate.

Applicant has added new claims 24 and 25 to distinguish over the prior art. Specifically, neither Switky nor Thomas teach or disclose a conductive member (item 30) formed broader on the inside of the resin wall (item 40), as disclosed in Figure 8A of the present application. This structure, coupled with the base seat part formed as a part of the resin wall, insures the bonding area and improves the support strength of the inner part of the conducting member. See, page 22, lines 15 - 20 and Figure 8A of the present specification.

Regarding claims 7-12, the Examiner has rejected these claims over Switky. The Examiner asserts that Switky discloses first holes in the outside positions of the resin wall on the conductive member. The Examiner also asserts that Switky discloses second holes in the region extending through the resin wall of the conductive member, wherein the first holes overlap the space area between the second holes. Applicant respectfully disagrees with the Examiner and traverses as follows.

Claims 7 and 8 recite holes on the outside of the resin wall. The carry-over paragraph on page 25 in the present application discloses that the holes on the conductive member are provided at the outside position of the resin wall. The specification discloses at page 26, line 1, that:

Even if such a liquid flows on the lead toward the outer wall surface of the resin wall, the flow is entirely or partially stopped by the first hole. Even if the liquid partially reaches the outer wall surface of the resin wall, the penetration of the flux or molten solder to the bonding interface of the resin wall and the lead and further into the package through the bonding interface is reduced by the second holes and cutouts.

The Examiner compares the holes in the conductive member to Figures 8 and 9 in Switky. However, the conductive member in Switky (item 13) fails to disclose any holes or any other means for preventing melting solder or other liquid from reaching the resin wall or inner package. Rather, Switky discloses conductive leads protruding from the resin wall, where "the leads are formed and curled about a lip that is formed into the molded package." Switky, column 7, lines 40-43.

According to the above analysis, Applicant asserts that Switky fails to render the claims of the present invention unpatentable under 35 U.S. 103(a). A notice of Allowance is respectfully requested.

In addition to the foregoing, pursuant to the requirements, Applicants also enclose a **"Version with Markings Showing Changes Made"** to facilitate the Examiner's review of the present amendment.

Respectfully submitted,



Paul J. Esatto, Jr.
Registration No. 30,749

SCULLY, SCOTT, MURPHY & PRESSER
400 Garden City Plaza
Garden City, New York 11530
(516) 742-4343
TDB:PJE:lac

“VERSION WITH MARKINGS TO SHOW CHANGES MADE”

IN THE CLAIMS

Claims 1, 2 and 6 have been amended as follows:

1.(Amended) A semiconductor device comprising:

a radiating plate;

a semiconductor chip bonded onto the radiating plate;

a resin wall bonded at the lower end to the radiating plate to surround the circumference of the semiconductor chip;

a conductive member extended through the resin wall and retained by the resin wall to electrically conduct the semiconductor chip to the outside; and

a resin lid bonded to the upper end of the resin wall, an inner lead portion of the conductive member being mounted on a base seat part formed as a part of the resin wall, and the semiconductor chip being sealed in the space blocked by the radiating plate, the resin wall and the resin lid.

2. (Amended) A semiconductor device comprising:

a conductive member formed by a lead frame;

a radiating plate formed of a metal plate different from the lead frame;

a semiconductor chip bonded onto the radiating plate;

a resin wall bonded at the lower end to the radiating plate, which retains the conductive member and surrounds the circumference of the semiconductor chip; and

a resin lid bonded to the upper end of the resin wall, the semiconductor chip being

sealed in the space blocked by the radiating plate, the resin wall and the resin lid, an inner lead portion of the conductive member being mounted on a base seat part formed as a part of the resin wall, and the conductive member electronically conducting the semiconductor chip to the outside.

6. (Amended) The [semicond6ctor] semiconductor device according to claim 2, wherein the recessed parts are provided on the opposed side parts of the radiating plate, the protruding parts are protruded and provided on the inner surfaces of the recessed parts, and the lower end part of the resin wall is buried in the recessed parts.